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IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

KEWAZINGA CORP.,	)	
Plaintiff,	)	Civil Action No. 1:20-cv-01106-LGS
vs.	)	
GOOGLE LLC,	)	
Defendant.	)	

PLAINTIFF KEWAZINGA CORP.'S
OPENING CLAIM CONSTRUCTION BRIEF

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Plaintiff Kewazinga Corp. ("Kewazinga") submits this brief in support of its proposed claim constructions. Kewazinga also submits the Claim Construction Expert Report and Declaration of Jeffrey Lubin, Ph.D. ("Lubin Decl.") in support of its proposals.[1]

I. INTRODUCTION

In this action, Kewazinga asserts that Google has infringed claims of U.S. Patent Nos. 9,055,234 ("the '234 patent" (Ex. A)), 6,522,325 ("the '325 patent" (Ex. B)), and 6,535,226 ("the '226 patent" (Ex. C); collectively with the '234 and '325 patents, "the Asserted Patents"), which date back to 1998, when Kewazinga was formed.[2] The Asserted Patents are directed to telepresence systems and methods that enable multiple users to navigate imagery along a path through a remote environment. Ex. B ('325 patent) at 1:18-21, 2:66-3:23.[3] The paths are defined by sequences of images captured from within the environment. *See id.* at Abstract, 6:19-23. In addition to developing the navigable telepresence technology of the Asserted Patents, Kewazinga also produced navigable content for the likes of NBC Sports, ABC Sports, ESPN, Golf Channel, U.S. Tennis Association, Nike, X-Games, NHL Hockey, New York Mets and David Blaine.

The parties only dispute the construction of two claim terms in the Asserted Patents: "mosaicing" and "array of cameras."[4] Kewazinga's proposed constructions are consistent with the plain and ordinary meaning of these terms to a person of ordinary skill in the art ("POSITA"), as confirmed by the intrinsic evidence and the expert opinion of Dr. Lubin. Google, on the other hand, violates well-established principles of claim construction in an attempt to improperly narrow

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[1] Pursuant to the Court's Scheduling Order (D.I. 32, ¶ 6) and E.D. Tex. Patent Rule 4-3, Kewazinga previously served the Claim Construction Expert Report and Declaration of Jeffrey Lubin, Ph.D. on Defendant Google LLC ("Google").
[2] The exhibits cited in this brief are attached to the Declaration of Saunak K. Desai, filed concurrently with this brief.
[3] For ease of readability, where the same language exists in multiple Asserted Patents, citations are made to just one Asserted Patent.
[4] The parties have agreed upon the construction of certain other claim terms. D.I. 108 (Joint Claim Construction and Prehearing Statement) at 1-4.

the terms and introduce imprecision into them. As to "mosaicing," Google largely agrees with Kewazinga's proposal but adds two erroneous limitations—neither of which is part of the ordinary meaning of "mosaicing"—and both of which are contradicted by the intrinsic evidence.

With respect to "array of cameras," Google proposes an imprecise construction likely to lead to juror confusion, defeating the purpose of claim construction—*i.e.*, clarifying the claim terms for the jury. Specifically, Google's proposal can be interpreted in multiple different ways. And that problem is further compounded because some of the ways in which a juror may interpret Google's proposed construction are irreconcilable with the intrinsic evidence. Kewazinga's proposed construction of "array of cameras" is supported by extensive intrinsic evidence and, notably, is consistent with how Kewazinga described its technology to Google in 2006. As part of communications between Kewazinga and Google in 2006, Kewazinga highlighted the ability to capture images not from fixed cameras, but from cameras mounted atop cars:

> Miniaturized systems mounted on vehicles and boats will ply the streets and waterways of cities and locales, giving armchair travelers the ability to experience the sights and sounds of live or prerecorded environments as though they were there. Kewazinga's telepresence technology will allow users to actually move through and around environments, not just zoom in from a fixed position.
>
> D.I. 96-6 at KEWAZINGA-G-0003022.

This disclosure is entirely consistent with the broad scope of the term "array of cameras" that is evident from the Asserted Patents.

For the reasons set forth herein and in the supporting expert report and declaration of Dr. Lubin, the Court should adopt Kewazinga's proposed constructions and reject Google's proposals.

II. TECHNOLOGY OVERVIEW

The Asserted Patents are directed to telepresence systems and methods that enable multiple users to smoothly navigate through a remote environment. *See* Ex. B ('325 patent) at 1:18-21,

2:66-3:23; Lubin Decl. ¶ 21. Sequences of images captured from within the environment define paths through the environment that users can navigate. Ex. B ('325 patent) at Abstract, 6:19-23; Lubin Decl. ¶ 21. Multiple users are able to navigate these paths simultaneously and independently of one another. *See, e.g.,* Ex. B ('325 patent) at Abstract.

While patent claims are not limited to the specific embodiments described in the specification, the embodiment of Figures 1, 9 and 10 of the Asserted Patents will now be described for illustrative purposes only. In this embodiment, an array of cameras within the environment captures a sequence of images through an environment, and those images are sent to a server. *See* Ex. B ('325 patent) at 4:53-56, 5:21-23; Lubin Decl. ¶ 22. The server processes the images for storage in an electronic storage device and/or transmission to users. Ex. B ('325 patent) at 5:53-56; Lubin Decl. ¶ 22. Each user has a user interface device including a user display for viewing and interacting with the images. Ex. B ('325 patent) at 5:67-6:2; Lubin Decl. ¶ 22.

The user interface devices then allow each user to navigate through the images of the environment captured by the array of cameras. The Asserted Patents describe "nodes" as being particular locations of memory storing these images. *See, e.g.*, Ex. B ('325 patent) at Abstract, 19:64-67; Lubin Decl. ¶ 23. Users generally navigate through the environment by moving between nodes to access the captured images. Ex. B ('325 patent) at 6:19-23, 19:64-67; Lubin Decl. ¶ 23. Navigation is generally accomplished by incrementing or decrementing the node address based on user inputs. *See* Ex. B ('325 patent) at 8:28-49; Lubin Decl. ¶ 23. For example, to move to the right, "the current node address is incremented along the X axis … to obtain an updated address." Ex. B ('325 patent) at 8:60-63; Lubin Decl. ¶ 23. Each user enters inputs to "generally select which *camera outputs* are transferred to the user display device." Ex. B ('325 patent) at 6:19-23 (emphasis added); Lubin Decl. ¶ 23. Navigation through the array is not limited to movement

from one physical, fixed camera to another, but rather includes display of camera outputs: "the System allows the viewer to float between a multiplicity of microcamera outputs in a way that, via electronic switching (and thus movement through the array), merges their fields of view into a seamless motion path." Ex. C ('226 patent) at 4:26-29; Lubin Decl. ¶ 23.

Although the Asserted Patents describe the array of cameras in this particular embodiment as comprising a plurality of modular rails carrying microcameras (*see* Ex. B ('325 patent) at 6:64-66), the Asserted Patents are not limited to an array of fixed, stationary cameras. Lubin Decl. ¶¶ 24-25. For example, the specification explains that the "array 10 can be secured to a moveable frame that can be wheeled into position in the environment" and that "virtually any configuration of rails 12 and cameras 14 is within the scope of the present invention." Ex. B ('325 patent) at 7:32-34, 7:41-45; Lubin Decl. ¶ 25. Additionally, as described in the specification, although "the communication links 15 between the cameras 14 and the server 18 are depicted as being hardwired, it is to be understood that wireless links may be employed" (Ex. B ('325 patent) at 5:27-30), which provides significant flexibility in positioning—and moving—cameras. Lubin Decl. ¶ 25.

In fact, in denying a petition for *inter partes* review of the '234 patent, the United States Patent & Trademark Office ("USPTO") recently explained that a priority patent application in the same family as the Asserted Patents—with virtually the same specification as the '325 patent—"expressly contemplates … using structures that include moving cameras to capture images, not only an 'array of fixed-position cameras.'" Ex. G (Decision Denying Institution of *Inter Partes* Review of U.S. Patent No. 9,055,234, *Microsoft Corp. v. Kewazinga Corp.*, IPR2019-00872, Paper 8 (PTAB Sept. 23, 2019)) at 15. The PTAB also rejected the petitioner's argument that the application "excluded from the invention all systems with moving cameras" and explained that the

application "does not criticize or disclaim 'moving camera systems, including vehicle-mounted cameras, in their entirety.'" *Id*. at 14, 16.

Moreover, the '325 and '234 patents describe a specific embodiment—illustrated in Figure 11 of those patents—in which cameras are sequentially moved into (and out of) different positions over time to capture images of the environment, further confirming that the Asserted Patents are not limited to an array of fixed, stationary cameras. Ex. B ('325 patent) at Fig. 11, 19:5-20:53; Lubin Decl. ¶ 26. Specifically, Figure 11 (reproduced below) depicts an embodiment in which a single array of cameras—labeled "10"—comprises the collection of a "plurality of cylindrical arrays"—labeled "12-1" to "12-n"—each of which is a separate array of cameras that is sequentially positioned through an environment at different times to capture images.[5] Ex. B ('325 patent) at Fig. 11, Fig. 12, 19:5-20:53; Lubin Decl. ¶¶ 26-28.

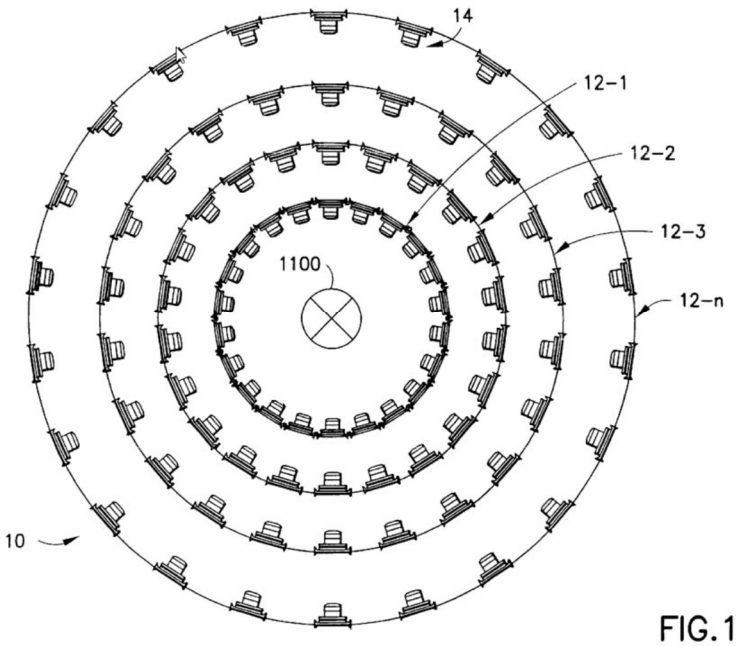
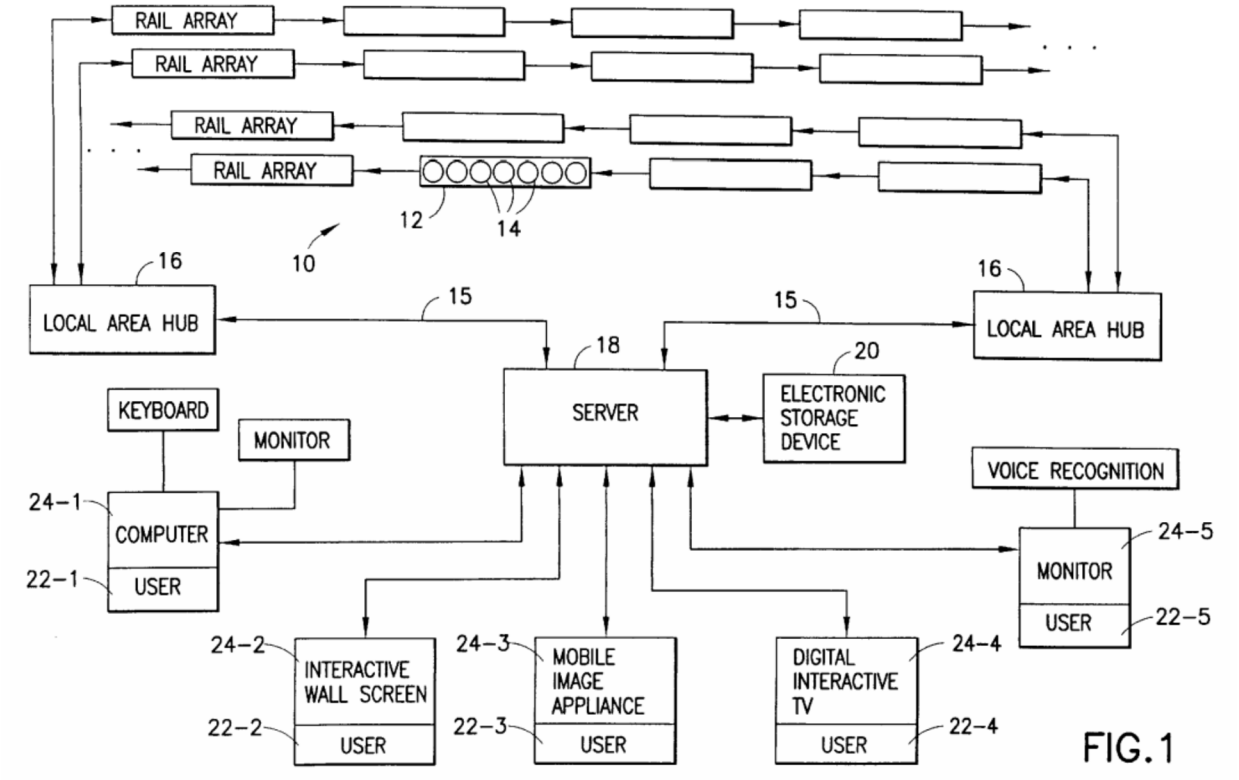


FIG. 11

[5] Because each cylindrical array 12-1 to 12-n is itself an array of cameras but also part of array of cameras 10, these cylindrical arrays are sometimes referred to herein as "sub-arrays" for explanatory purposes.

As explained in the '325 and '234 patents, the embodiment in Figure 11 is described "with respect to Fig. 11 and ***continuing reference to Fig. 1***." Ex. B ('325 patent) at 18:64-19:1 (emphasis added); Lubin Decl. ¶ 27. Figure 1—reproduced below—is a block diagram that shows a plurality of "rail arrays" labeled "12" that comprise a single array of cameras labeled "10." Ex. B ('325 patent) at Fig. 1, 5:19-20 (explaining regarding Figure 1: "The ***array 10*** comprises a plurality of rails 12, each rail 12 including a series of cameras 14.") (emphasis added); Lubin Decl. ¶ 27.



Thus, in light of the explicit "continuing reference" to Figure 1 and its accompanying description, the label "10" in Figure 11 refers to a single array of cameras, just as it does in Figure 1, which provides guidance for understanding Figure 11. *See* Ex. B ('325 patent) at 18:64-19:1; Lubin Decl. ¶¶ 27-28; Ex. E (Lubin Tr.) at 152:23-154:9, 156:19-157:20.

As shown in Figure 11, a first sub-array (*e.g.*, 12-1) is positioned at a location in an environment to capture images. Ex. B ('325 patent) at 19:5-26, 19:41-63; Lubin Decl. ¶ 28. After that first sub-array captures and stores images, it is removed and another sub-array (*e.g.*, 12-2) is then positioned at another location in the environment to capture and store images. Ex. B ('325 patent) at 19:5-26, 19:41-63; Lubin Decl. ¶ 28. This continues for as many different locations as desired, as the "12-n" label indicates that an arbitrary number of sub-arrays can be used. Ex. B ('325 patent) at 19:41-63; Lubin Decl. ¶¶ 28-29. Thus, the array of cameras 10 in Figure 11 is created over time by moving cameras that are part of cylindrical sub-arrays 12-1 to 12-n to different locations through an environment to capture images. *Id*. ¶ 28. Because cameras can be moved to each of the different locations to form the array, fewer cameras can be used than might be needed if cameras were required to be affixed to those different locations.

The Figure 11 embodiment demonstrates that an array of cameras encompasses a temporal aspect—*i.e.*, an array of cameras may be formed ***over time*** by moving cameras to capture images at different locations in an environment. Although Figure 11 depicts each cylindrical sub-array 12-1 to 12-n in the same figure for illustrative purposes, the patent description makes clear that only one sub-array is so positioned at any given time. Ex. B ('325 patent) at 19:41-63; Lubin Decl. ¶ 28. In this embodiment, for example, if sub-array 12-1 in Figure 11 is not moved prior to capturing images with sub-array 12-2, then sub-array 12-1 itself may block (or be included in) the view of the cameras in sub-array 12-2 when they are used to capture images. Thus, Figure 11 depicts a time-lapse view of the embodiment to illustrate the full extent of array of cameras 10—*e.g.*, sub-array 12-1 forms a part of array of cameras 10 even after it has been removed (after capturing images) and subsequent sub-arrays (12-2, 12-3, etc.) have been positioned to capture images. This is consistent with the description of Figure 11 as well as Figure 12, which is a

"flowchart illustrating in detail the image capture portion of the operation of the embodiment shown in Fig. 11." Ex. B ('325 patent) at 3:59-61, 19:5-26, 19:41-63, Fig. 12.

In other words, Figure 11 is not simply a two-dimensional depiction of an array of cameras—it encompasses a third dimension: ***time***. Because cameras can be positioned at different locations at different times, there is no need to affix stationary cameras through an environment to capture images of that environment. Instead, cameras can be moved to different locations at different times to form an array of cameras. The images captured by the array of cameras are stored and users navigate the stored imagery of those different locations. Simply put, the Asserted Patents do not limit the term "array of cameras" to a set of cameras, fixed at different locations in an environment. As shown by Figure 11, an array of cameras can be created ***over time*** by moving cameras to capture images of different locations in an environment. Lubin Decl. ¶¶ 26-28.

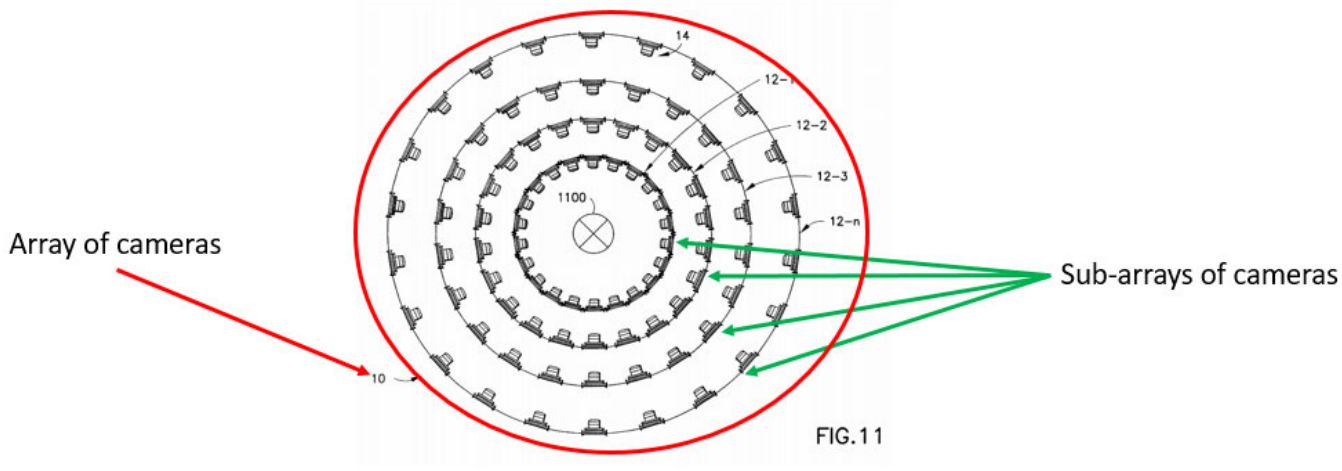
Notably, for the Figure 11 embodiment, there is no requirement described in the Asserted Patents that there be exact or uniform distances between each of the cylindrical sub-arrays 12-1 to 12-n. Lubin Decl. ¶ 29; *see also generally* Ex. B ('325 patent) at 19:5-20:27. Additionally, as explained, for example, in connection with the Figure 11 embodiment, there is no requirement described in the Asserted Patents that the physical relationship between each of the cylindrical sub-arrays 12-1 to 12-n be predetermined or known prior to image capture. Lubin Decl. ¶ 29; *see also generally* Ex. B ('325 patent) at 19:5-20:27. Indeed, Figure 12—a flowchart describing the Figure 11 embodiment—makes clear that the decision to position an additional sub-array is made after image capture has begun. *See* Ex. B ('325 patent) at Fig. 12 (explaining that in step 1210 a cylindrical array is situated around the environment; in step 1240 (after some additional steps) the array is removed; in step 1250, a decision is made as to whether to add an array of a different diameter; and, if so, then step 1210 is again performed, in which the additional array is situated);

Lubin Decl. ¶ 29. The Asserted Patents, instead, describe embodiments in which there is a known relationship between the cameras based on "the number of camera positions along [an] axis [a] particular camera is displaced from a reference camera." Ex. B ('325 patent) at 5:1-11, 19:19-26; Lubin Decl. ¶ 30. Specifically, in describing the Figure 11 embodiment, the Asserted Patents state:

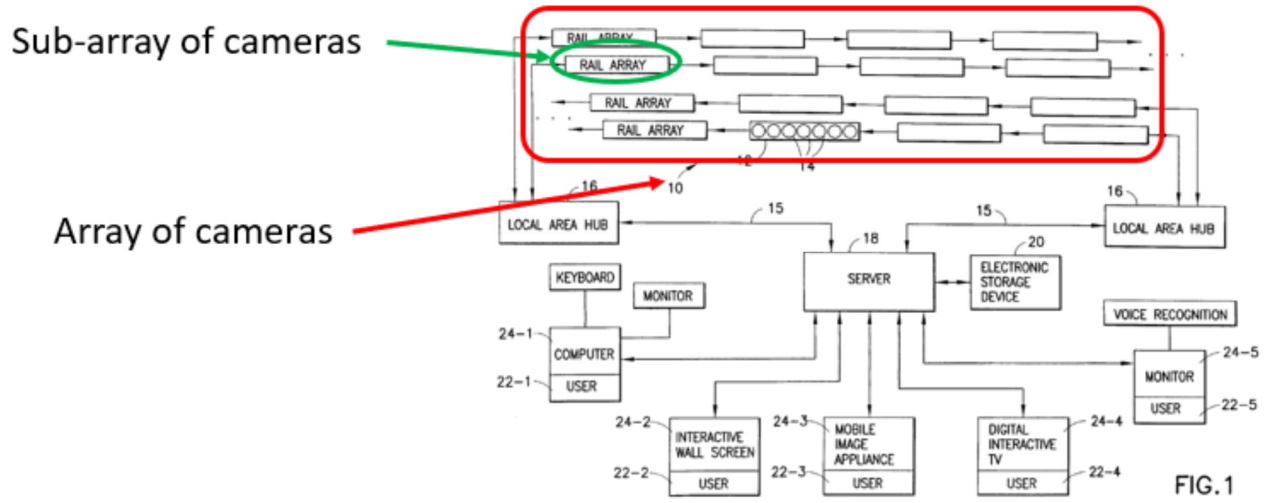
> In the present embodiment, for example, a coordinate value corresponding to an axis of a particular camera represents the number of camera positions along that axis the particular camera is displaced from a reference camera. In the present embodiment, from the user's perspective, the X axis runs around the perimeter of an array 12, and the Z axis runs down and up. Each storage node is associated with a camera view identified by its X, Z coordinate.
>
> Ex. B ('325 patent) at 19:19-26.

Thus, the Asserted Patents describe a coordinate system based on the known relationship between the cameras in an array in terms of a number of camera positions, not spatial distances. Ex. B ('325 patent) at 5:1-11, 19:19-26; Lubin Decl. ¶¶ 29-30. This coordinate system allows a user to navigate imagery stored in "nodes" associated with certain coordinates defined by the relationship between cameras, including navigation between the sub-arrays "to move forward and backward in an environment." Lubin Decl. ¶ 30; Ex. B ('325 patent) at 19:41-20:27.

The Figure 11 embodiment is just one example in the Asserted Patents demonstrating that an array of cameras can be created from a plurality of smaller arrays of cameras, *i.e.*, sub-arrays. This is shown more clearly in the annotated version of Figure 11 below.



Other embodiments in the Asserted Patents illustrate this concept as well. For example, the Figure 1 embodiment, shown annotated below, includes a single array of cameras (labeled "10") comprised of multiple rail arrays of cameras (labeled "12"). Ex. B ('325 patent) at 5:19-20, Fig. 1; Lubin Decl. ¶ 31.



The embodiment of Figure 3, shown annotated below, also depicts a single array of cameras (labeled "10") comprised of several rail arrays of cameras (labeled "12"). Ex. B ('325 patent) at 7:47-48, Fig. 3; Lubin Decl. ¶ 32.

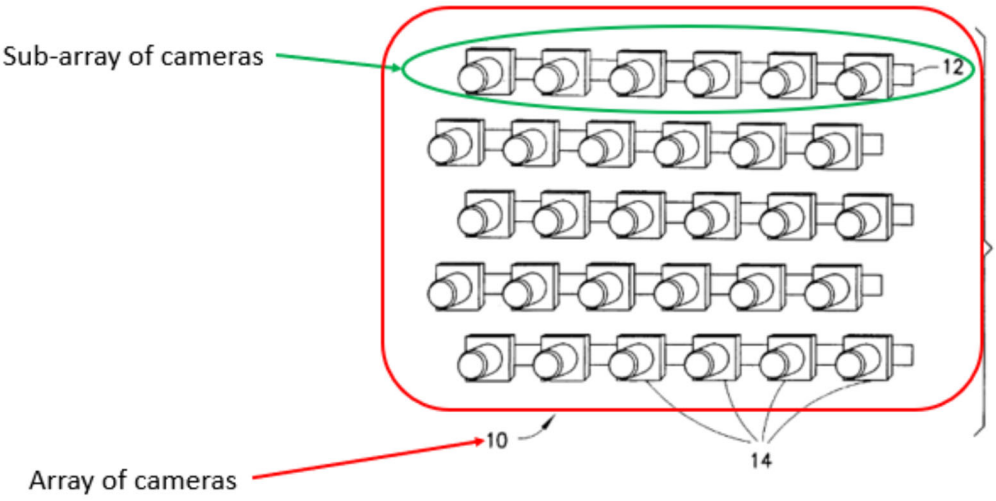


FIG.3

Additionally, the Asserted Patents distinguish user navigation through an array of cameras—which can be created over time by moving cameras, as explained above—from user navigation by remote control of a robotic camera. The Asserted Patents criticize the latter, in which a user navigates by remotely controlling a robotic camera, because such an approach "would immediately limit the number of viewers that could simultaneously control their own course" through an environment. Ex. C ('226 patent) at 4:22-29; Lubin Decl. ¶ 24. Instead, users can navigate through a "multiplicity of microcamera outputs" in the array of cameras in order to simultaneously and independently navigate through an environment. *Id.*

Certain embodiments include "various techniques for mixing images of cameras along each path for effectuating seamless motion along such paths." Ex. B ('325 patent) at Abstract. One such mixing technique described in the '234 and '325 patents is "mosaicing," which has an understood meaning in the field that is consistent with its usage in the '234 and '325 patents. *Id.* at 13:15-21. As explained in further detail below, "mosaicing" refers to creating imagery assembled from a plurality of images, or portions thereof, including an alignment process and a composition process. *See id.* at 13:21-49; Lubin Decl. ¶¶ 35, 38, 41.

III. APPLICABLE LAW ON CLAIM CONSTRUCTION

"[T]he words of a claim are generally given their ordinary and customary meaning," which is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-1313 (Fed. Cir. 2005) (citation omitted). "The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation." *Id*. at 1313. The intrinsic evidence—the claims, specification, and prosecution history—provides substantial guidance as to the meaning of claim terms, with primary importance coming from the claims themselves. *Id.* at 1314-17; *Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009). A court may also consider extrinsic evidence though such evidence is "less significant than the intrinsic record" in construing the claims. *Phillips*, 415 F.3d at 1317.

Although the claims must be read in view of the specification, limitations from the specification, including particular embodiments, may not be used to narrow the claims. *Philips*, 415 F.3d at 1323 ("For instance, although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments."); *Woods v. DeAngelo Marine Exhaust, Inc.*, 692 F.3d 1272, 1283 (Fed. Cir. 2012) ("The specification need not describe every embodiment of the claimed invention and the claims should not be confined to the disclosed embodiments—even when the specification discloses only one embodiment.") (internal citations omitted); *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1366 (Fed. Cir. 2012) ("We do not read limitations from the specification into claims; we do not redefine words."). Indeed, importing limitations from illustrative embodiments into the claims is one of the "cardinal sins of patent law." *Au New Haven, LLC v. YKK Corp.*, No. 1:15-CV-3411-GHW, 2016 WL 6879263, at *6 (S.D.N.Y. Nov. 22, 2016) (Woods, J.).

Instead, "[c]laim terms are properly construed to include limitations not otherwise inherent in the term only when a patentee sets out a definition and acts as his own lexicographer, or when the patentee disavows the full scope of a claim term either in the specification or during prosecution." *Woods*, 692 F.3d at 1283 (internal quotation marks omitted); *Thorner*, 669 F.3d at 1365, 1367 ("The patentee is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning unless the patentee explicitly redefines the term or disavows its full scope."); *InterDigital Commc'ns, LLC v. Int'l Trade Comm'n*, 690 F.3d 1318, 1324 (Fed. Cir. 2012) ("The plain meaning of claim language ordinarily controls unless the patentee acts as his own lexicographer and provides a special definition for a particular claim term or the patentee disavows the ordinary scope of a claim term either in the specification or during prosecution."). "To act as its own lexicographer, a patentee must 'clearly set forth a definition of the disputed claim term' other than its plain and ordinary meaning." *Thorner*, 669 F.3d at 1365. "The standard for disavowal of claim scope is similarly exacting." *Id*. at 1366. Any such disavowal must be "clear and unmistakable." *Id*. at 1367. Neither "mere criticism of a particular embodiment" nor the fact that "the only embodiments, or all of the embodiments, contain a particular limitation" is enough to constitute disavowal of the full scope of a claim term. *See id*. at 1366-67.

Moreover, the Court's claim construction is designed to assist in infringement and validity determinations—it is not designed to obscure or unnecessarily complicate the plain meaning of claim terms. *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997).

IV. CLAIM CONSTRUCTION AND ANALYSIS

A. "mosaicing" ('325 patent, claims 1, 5, 6)

The claim term "mosaicing" should be construed to mean ***creating imagery assembled from a plurality of images, or portions thereof, including an alignment process and a***

composition process.[6] This construction is consistent with the specifications of the '234 and '325 patents, the ordinary meaning of the term in the field, and the expert opinion of Dr. Lubin. The '234 and '325 patents expressly describe the term "mosaicing" as a process for creating imagery assembled from two or more images that includes an alignment process and a composition process. *See, e.g.,* Ex. B ('325 patent) at 13:15-28; Lubin Decl. ¶ 41. U.S. Patent No. 5,649,032 to Burt ("the Burt patent" (Ex. D)), which is incorporated by reference in the '234 and '325 patents (*see* Ex. A ('234 patent) at 17:31-36; Ex. B ('325 patent) at 13:15-21), is additional intrinsic evidence that describes mosaicing as this same process. *See, e.g.,* Ex. D (Burt patent) at Abstract, 1:60-65, 2:3-41 (describing alignment process and composition process), 3:39-48; Lubin Decl. ¶ 41. This is illustrated in Figure 3 of the Burt patent, reproduced below.

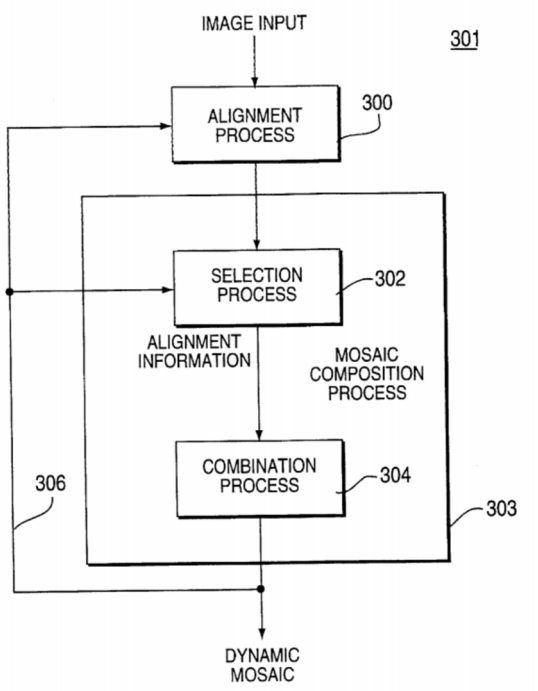


FIG. 3

[6] The parties have agreed that other claim terms reciting the word "mosaicing" as part of longer phrases or variants of "mosaicing" (*e.g.*, "mosaic imagery") should be construed in accordance with the construction of the term "mosaicing" and need not be separately construed. *See* D.I. 108 (Joint Claim Construction and Prehearing Statement) at 3-4.

The alignment process in mosaicing involves aligning the images, or portions thereof, that may be included in the mosaic. Ex. B ('325 patent) at 13:21-25; Lubin Decl. ¶ 42. This can involve, for example, aligning images to a reference coordinate system or, in other words, placing the images into the same coordinate system. Ex. D (Burt patent) at 2:3-12, 5:60-62; Lubin Decl. ¶ 42. The composition process involves selecting images, or portions thereof, for incorporation into the mosaic and combining them. Ex. B ('325 patent) at 13:26-39; Ex. D (Burt patent) at 2:26-41; Lubin Decl. ¶ 42.

The only expert testimony that either party has offered supports Kewazinga's proposed construction. Dr. Lubin—an expert with decades of experience in image processing—opined that mosaicing refers to creating imagery assembled from a plurality of images, or portions thereof, including an alignment process and a composition process. And in another case in which this same claim term in the same patents was construed—*Kewazinga Corp. v. Microsoft Corp.*, No. 1:18-CV-4500-GHW (S.D.N.Y.) ("*Kewazinga v. Microsoft*")—the Court adopted the same construction for the term "mosaicing" that Kewazinga has proposed in this case. *Kewazinga Corp. v. Microsoft Corp.*, No. 1:18-CV-4500-GHW, 2019 WL 3423352, at *6 (S.D.N.Y. July 29, 2019) (Woods, J.).

Google's proposed construction for "mosaicing"—"creating imagery assembled from a plurality of camera outputs, or portions thereof, including an alignment process and a composition process to achieve a seamless combination of the camera outputs"—largely tracks Kewazinga's proposal but adds two erroneous limitations. D.I. 108 (Joint Claim Construction and Prehearing Statement) at Exhibit 1, p. 1. First, Google seeks to limit mosaicing to creating imagery assembled only from *camera outputs* or portions thereof. Second, Google's proposal requires that mosaicing result in a *seamless* mosaic or that there be some additional processing performed to attempt to

create a *seamless* mosaic. Neither of these requirements is proper in light of the intrinsic evidence and plain and ordinary meaning of mosaicing.

Mosaicing does not require creating imagery assembled only from "camera outputs." In fact, the '234 patent explicitly describes mosaicing images that are ***not*** "camera outputs," explaining that mosaicing can involve "camera outputs" ***and***, separately, "additional source output"—*e.g.*, "computer graphic imagery, virtual world camera views and virtual world grid data, virtual world imagery, virtual objects and their grid positioning data, applets, sprites, avatar representations, film clips, animation, augmented reality objects or images or recordings of real world objects." Ex. A ('234 patent) at 12:39-13:2 ("The system may present the ***additional source output***, alone or in combination with the camera output, for example, by ***mosaicing***, mixing, layering or multiplexing it.") (emphasis added); Lubin Decl. ¶ 46. The Burt patent also describes mosaicing without any limitation to "camera outputs" but, rather, with reference to images generally. *See, e.g.,* Ex. D (Burt patent) at 1:20-25, Fig. 3 (describing inputs to mosaicing as "Image Input"); Lubin Decl. ¶ 46.

Thus, Google's proposed construction is directly refuted by the intrinsic evidence and improperly excludes embodiments disclosed in the '234 patent. *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1324 (Fed. Cir. 2011) ("[T]here is a strong presumption against a claim construction that excludes a disclosed embodiment."); *ERBE Elektromedizin GmbH v. Int'l Trade Comm'n*, 566 F.3d 1028, 1034 (Fed. Cir. 2009) ("We generally do not construe claim language to be inconsistent with the clear language of the specification."); *see also NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1297 (Fed. Cir. 2005) (rejecting claim construction that "contradicts the text and figures of the written description").

Moreover, the ordinary meaning of mosaicing to a POSITA encompasses creating imagery from a plurality of *images*, or portions thereof, not only "camera outputs," or portions thereof. Lubin Decl. ¶ 46. And there is no disclaimer or redefinition of that ordinary meaning of mosaicing in the Asserted Patents, especially given their express teaching of mosaicing images that are ***not*** "camera outputs." *See Thorner*, 669 F.3d at 1365, 1367.

Mosaicing also does not require "achiev[ing] a seamless combination of the [] outputs" or efforts "to achieve a seamless combination of the [] outputs." D.I. 108 (Joint Claim Construction and Prehearing Statement) at Exhibit 1, p. 1. Although mosaicing ***may*** result in a seamless mosaic and one ***may*** employ additional processing to reduce or remove seams in a mosaic, a POSITA would not understand either of those to be a ***requirement*** of mosaicing. Lubin Decl. ¶ 44. This is evident from the Burt patent's description of performing additional image processing to make a mosaic seamless ***after the mosaic has been created, i.e., after mosaicing has occurred***:

> After processing, the individual images are combined to form a mosaic, i.e., an image that contains a plurality of individual images. Additional image processing is performed on the mosaic to ensure that the seams between the images are invisible such that the mosaic looks like a single large image.
>
> Ex. D (Burt patent) at 1:20-25.

Similarly, the Burt patent repeatedly uses the phrase "seamless mosaic," differentiating a mosaic that is seamless from one that is not, which confirms that a mosaic need not be seamless. *See* Ex. D (Burt patent) at 4:41-44 ("Furthermore, in composing the mosaic from the aligned images, the system may use any one of a number of image fusing, merging, filtering, and averaging processes to best produce a seamless mosaic."), Abstract; Lubin Decl. ¶ 44. This intrinsic record demonstrates that not all mosaicing needs to result in a seamless mosaic, else "seamless mosaic" as used in the intrinsic record would be nonsensically redundant.

Again, the only expert testimony offered by either party supports Kewazinga's position. As Dr. Lubin explained, a POSITA would understand based on the ordinary meaning of mosaicing that a mosaic exists and mosaicing has occurred regardless of whether (1) the mosaic is seamless, or (2) attempts are made to make the mosaic seamless. Lubin Decl. ¶ 44; *see* Ex. E (Lubin Tr.) at 200:9-201:18, 202:21-204:20, 224:20-225:22. Nothing in the Asserted Patents amounts to a disavowal of the full scope of mosaicing or a redefinition of the term's ordinary meaning and, therefore, the construction should encompass "the full scope of its plain and ordinary meaning." *Thorner*, 669 F.3d at 1365, 1367. Although the Burt patent describes exemplary applications in which a seamless mosaic is desired and, thus, efforts to make the mosaic seamless are employed, those applications do not amount to a disavowal of the full scope of mosaicing, which does not require such efforts. *See id*. at 1366-67 ("It is likewise not enough [for disavowal] that the only embodiments, or all of the embodiments, contain a particular limitation. We do not read limitations from the specification into claims; we do not redefine words. Only the patentee can do that.").

In *Kewazinga v. Microsoft*, the Court rejected that mosaicing must result in a seamless image, recognizing that the "Burt Patent makes clear that a mosaic can be formed even if that mosaic is not perfectly seamless." *Kewazinga*, 2019 WL 3423352, at *8. However, the Court did not address the issue of whether mosaicing requires efforts to make the mosaic seamless even if those efforts do not ultimately result in a seamless mosaic. *See id*. at *9 n.8. Nonetheless, as explained above, the intrinsic evidence and expert testimony of Dr. Lubin confirm that mosaicing does not require such efforts.

Accordingly, the Court should adopt Kewazinga's proposed construction of "mosaicing," and reject Google's proposal which includes two erroneous limitations that are contradicted by the intrinsic evidence and at odds with the plain and ordinary meaning of the term to a POSITA.

B. "array of cameras" ('226 patent, claims 55, 119; '325 patent, claims 1, 5, 6, 10, 14, 15, 29)

The claim term "array of cameras" is readily understood by both a POSITA and a layperson and requires no construction by the Court. Should the Court decide to construe the term "array of cameras," it should be construed as ***a camera configuration wherein the configuration can be created over time by moving cameras***. This construction is consistent with the specifications of the '226 and '325 patents, and, as Dr. Lubin explained, it is consistent with the ordinary meaning of the term "array of cameras" to a POSITA. Lubin Decl. ¶¶ 47-50.

The '226 and '325 patents illustrate the breadth of the term "array of cameras" as used in the Asserted Patents.[7] The purpose of the array of cameras in these patents is to capture images at sequential locations through an environment so that users can access those images in order to navigate smoothly and independently through the environment. *See* Ex. C ('226 patent) at 4:22-29; Ex. B ('325 patent) at 4:32-43; Lubin Decl. ¶ 50. The Asserted Patents emphasize that an array of cameras can take many different forms to serve this purpose. The array of cameras is not limited to a specific structure or even a single structure. *See, e.g.,* Ex. B ('325 patent) at 7:34-47 ("For example, the array 10 may be a linear array of cameras 14, a 2-dimensional array of cameras 14, a 3-dimensional array of cameras 14, or any combination thereof."), Figs. 2e, 3, 4, 7a, 11 (all depicting different types of arrays of cameras), Fig. 1 (depicting block diagram of array of cameras as part of invention); Lubin Decl. ¶ 48. This is consistent with the ordinary meaning of "array"—*i.e.*, "regular order or arrangement"—which is not limited to a specific type of structure or a single structure. Ex. F (Random House Webster's College Dictionary (1991)) at 76; Lubin Decl. ¶ 48.

The Asserted Patents also make clear that an array of cameras can be comprised of multiple other arrays of cameras, *i.e.*, sub-arrays. *See supra* at § II; Ex. B ('325 patent) at Figs. 1, 3, 11;

[7] The claims of the '234 patent do not require an "array of cameras." *See, e.g.,* Ex. A ('234 patent) at claim 1.

Lubin Decl. ¶¶ 31-33, 49. Moreover, as shown in the Asserted Patents, the cameras in an array of cameras need not be physically connected to one another. *See, e.g.,* Ex. B ('325 patent) at Fig. 3 (showing array of cameras 10 comprising multiple sub-arrays 12 that are not physically connected to one another), Fig. 11 (showing array of cameras 10 comprising multiple sub-arrays 12 that are not physically connected to one another); Lubin Decl. ¶ 49. The Asserted Patents also expressly explain that an array of cameras can be moveable. Ex. B ('325 patent) at 7:43-44 ("the array 10 can be secured to a moveable frame that can be wheeled into position in the environment").

Importantly, the intrinsic evidence demonstrates that an array of cameras can be created ***over time*** by moving cameras to capture images at different locations in an environment. For example, in the Figure 11 embodiment, the array of cameras labeled "10" is created over time by moving cameras (labeled "14") that are part of cylindrical sub-arrays (labeled "12-1" to "12-n"). *See supra* at § II; Ex. B ('325 patent) at Fig. 11, 19:5-63; Lubin Decl. ¶¶ 26-28, 50. Each cylindrical sub-array is positioned at a location to capture and store images, removed after that is done, and then another cylindrical sub-array may be positioned ***at a new location at a different time*** to capture and store images. Ex. B ('325 patent) at 19:41-63, Figs. 11, 12; Lubin Decl. ¶¶ 26-28, 50. This sequential positioning of multiple arrays of cameras 12-1 to 12-n (*i.e.*, sub-arrays) at different locations in the environment at different times forms array of cameras 10 over time.[8] *See supra* at § II; Lubin Decl. ¶¶ 28, 50.

In the Figure 11 embodiment, after the sub-arrays are moved to capture and store images (forming array of cameras 10 over time), users can navigate through the environment by accessing those stored images. Ex. B ('325 patent) at 19:64-20:27; Lubin Decl. ¶ 50. In this way, users can

[8] As explained above in the Technology Overview, the '325 and '234 patents state that the Figure 11 embodiment is described "with respect to Fig. 11 and ***continuing reference to Fig. 1***," confirming that label "10" in Figure 11 refers to an array of cameras, as it does in Figure 1. *See supra* at § II; Ex. B ('325 patent) at 18:64-19:1 (emphasis added), Fig. 1, 5:19-20; Lubin Decl. ¶ 27; Ex. E (Lubin Tr.) at 152:23-154:9, 156:19-157:20.

navigate array of cameras 10 to "move forward and backward in an environment" by, for example, navigating between the different sub-arrays that form array of cameras 10. Ex. B ('325 patent) at 19:64-20:27; Lubin Decl. ¶ 50. The images captured by array of cameras 10 can be mosaiced and/or tweened[9] in order to smooth the transitions between the images during user navigation, regardless of whether those images were captured at different locations, at different times, and/or by different sub-arrays. Lubin Decl. ¶ 50.

Thus, the Figure 11 embodiment confirms several critical aspects regarding the scope of the term "array of cameras"—and its proper construction—as used in the Asserted Patents. *First*, an array of cameras is not limited to stationary cameras. Rather, cameras can be moved to capture images at different locations, and this process can form an array of cameras over time. Ex. B ('325 patent) at 19:5-19:63; Lubin Decl. ¶¶ 28, 50, 55. *Second*, the cameras in an array of cameras need not be physically connected, though they may be. *See, e.g.,* Ex. B ('325 patent) at Fig. 11 (showing no physical connection between sub-arrays 12-1 to 12-n that comprise array of cameras 10). *Third*, cameras forming an array of cameras can be moved into and out of the environment during the image capture process; not all of the cameras in an array need to be positioned to capture images at the same time. *See* Ex. B ('325 patent) at 19:41-63, Fig. 11; Lubin Decl. ¶¶ 28, 50. For example, in Figure 11, sub-array 12-1 which is part of array of cameras 10 is removed prior to positioning sub-array 12-2 which is also part of array of cameras 10. *See* Ex. B ('325 patent) at 19:41-63, Fig. 11, Fig. 12; Lubin Decl. ¶¶ 28, 50. *Fourth*, the locations of the cameras in an array of cameras need not be predetermined or known prior to beginning the image capture process. Lubin Decl.

[9] "Tweening" is another type of image processing disclosed in the '325 and '234 patents, and a term found in some of the claims of those patents. The parties have agreed that "tweening" should be construed as "generating synthetic imagery from acquired imagery, and utilizing that synthetic imagery between the acquired imagery, in order to show movement and transition between the acquired imagery." D.I. 108 (Joint Claim Construction and Prehearing Statement) at 1.

¶¶ 29, 54. As shown in the Figure 12 flowchart describing the Figure 11 embodiment, neither the decision to position another sub-array in the environment to capture images nor the decision on where to position that sub-array need be made prior to beginning the image capture process. *See* Ex. B ('325 patent) at 19:55-59, Fig. 12; Lubin Decl. ¶¶ 29, 54. *Fifth*, there need not be exact or uniform distances between the cameras in an array of cameras—instead, cameras may be related by the number of camera positions that they are displaced from another, as opposed to particular spatial distances. Ex. B ('325 patent) at 19:19-26; Lubin Decl. ¶¶ 29, 30, 50, 52, 53.

For these reasons, the intrinsic evidence and expert testimony supports Kewazinga's proposed construction of the term "array of cameras." Google, however, proposes that the term be construed as "a set of multiple cameras, each fixed in relation to each other." D.I. 108 (Joint Claim Construction and Prehearing Statement) at Exhibit 1, p. 4. Although this is the construction of "array of cameras" that was adopted in the *Kewazinga v. Microsoft* (*see Kewazinga*, 2019 WL 3423352, at *15), given the imprecision of the phrase "fixed in relation to each other," this construction is likely to lead to juror confusion which is contrary to the purpose of claim construction—"clarify[ing] … what the patentee covered by the claims, for use in the determination of infringement." *U.S. Surgical Corp.*, 103 F.3d at 1568. This is because—as explained below and by Dr. Lubin (*see* Lubin Decl. ¶¶ 51-55)—under multiple potential meanings of "fixed in relation to each other," this construction would be irreconcilable with the intrinsic evidence and erroneously exclude preferred embodiments. *SynQor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1379 (Fed. Cir. 2013) ("A claim construction that 'excludes the preferred embodiment is rarely, if ever, correct and would require highly persuasive evidentiary support.'") (quoting *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010)); *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d at 1324 ("[T]here is a strong

presumption against a claim construction that excludes a disclosed embodiment."). Though there is a known relationship between cameras in an array, the phrase "fixed in relation to each other" may be interpreted by the jury in ways that are inconsistent with the intrinsic evidence.

For example, to the extent "fixed in relation to each other" is understood to require exact or uniform distances between the cameras in an array of cameras, Google's proposal would be refuted by the Asserted Patents. Lubin Decl. ¶ 53. The Asserted Patents describe at length a relationship between the cameras in an array in terms of "***the number of camera positions along [an] axis [a] particular camera is displaced from a reference camera***." Ex. B ('325 patent) at 5:1-18, 19:19-26 (emphasis added); Lubin Decl. ¶¶ 30, 52. This relationship permits use of a coordinate system to identify the cameras based on their displacement in terms of a number of camera positions, ***not spatial distances***. Lubin Decl. ¶¶ 52-53. This also permits a user to navigate images along paths through an environment based on that coordinate system. *See* Ex. B ('325 patent) at 8:28-9:32, 9:58-64.

In other words, there is a known relationship between the cameras based on a number of camera positions, as opposed to precise spatial distances. Lubin Decl. ¶¶ 35, 52-53. As Dr. Lubin explained in view of the disclosures in the Asserted Patents, three cameras positioned along an X-axis can be identified with coordinate values X_1, X_2, and X_3, indicating the relationship between those cameras in terms of camera positions relative to one another. Lubin Decl. ¶ 53 That known relationship permits navigation regardless of whether there are exact or uniform distances between those three cameras. *Id*. Similarly, mosaicing does not require knowing the exact distances between the cameras. *Id*. ¶ 35. Thus, a construction of "array of cameras" requiring exact or uniform distances between the cameras—as Google's proposal may be understood to require—would improperly contradict the intrinsic evidence and nullify the disclosure of relationships

between cameras based on displacement with respect to a number of camera positions rather than particular distances. *ERBE Elektromedizin*, 566 F.3d at 1034.

As another example, if "fixed in relation to each other" is understood to require that the relationship between cameras be predetermined or known prior to image capture, Google's proposal would be contradicted by the Asserted Patents, which teach that the relationship between cameras may become known ***after*** image capture has begun. For instance, in the Figure 11 embodiment, the decision to use additional sub-arrays that form array of cameras 10 can be made after the image capture process has already begun. *See* Ex. B ('325 patent) at 19:55-59, Fig. 1; Lubin Decl. ¶¶ 29, 54. Thus, a construction of "array of cameras" requiring a predetermined relationship between cameras—as Google's proposal may be understood to require—would erroneously contradict the intrinsic evidence and exclude disclosed embodiments such as Figure 11. *SynQor,* 709 F.3d at 1379; *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d at 1324.

As yet another example, the use of the word "fixed" in Google's proposal is likely to lead to juror confusion because the Asserted Patents indisputably do not require the cameras in an array of cameras to be stationary, which may be connoted by the word "fixed." The Asserted Patents expressly state that an array of cameras "can be secured to a moveable frame that can be wheeled into position in the environment"—*i.e.*, an array of cameras is moveable and, accordingly, the cameras in that array are moveable as well. Ex. B ('325 patent) at 7:43-44; Lubin Decl. ¶ 55. And, as extensively described above, the Figure 11 embodiment involves moving sub-arrays with cameras to different locations at different times to capture images. *See supra* at § II; Lubin Decl. ¶¶ 26-28, 55. Additionally, as explained in further detail above, the USPTO recently confirmed that the Asserted Patents "expressly contemplate[] … using structures that include moving cameras

to capture images, not only an 'array of fixed-position cameras.'" *See supra* at § II; Ex. G (Decision Denying Institution of *Inter Partes* Review of U.S. Patent No. 9,055,234, *Microsoft Corp. v. Kewazinga Corp.*, IPR2019-00872, Paper 8 (PTAB Sept. 23, 2019)) at 15. Thus, a construction of "array of cameras" requiring that the cameras in an array be stationary—as Google's proposal may be understood to require—is wrong in light of the intrinsic evidence and improperly excludes disclosed embodiments. *ERBE Elektromedizin*, 566 F.3d at 1034; *SynQor,* 709 F.3d at 1379; *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d at 1324.

In short, although Google proposes the construction of "array of cameras" adopted in *Kewazinga v. Microsoft*, that construction presents ambiguities that may be interpreted in different ways by the jury, including in ways that are explicitly refuted by the intrinsic evidence. The purpose of claim construction is to ***clarify*** claim terms for the jury—not introduce imprecision that could lead the jury astray. *See U.S. Surgical Corp.*, 103 F.3d at 1568; *see also PaymentOne Corp. v. PayPal, Inc.*, No. 11-CV-02186-YGR, 2013 WL 4008829, at *17 (N.D. Cal. Aug. 2, 2013) (rejecting proposed construction of claim term that "impose[d] an unintended meaning and [was] likely to confuse the jury"); *see also id*. at *12 (same). Thus, to prevent this likely juror confusion, the Court should reject Google's proposal and adopt Kewazinga's proposal.

V. CONCLUSION

For the foregoing reasons, the Court should reject Google's proposed constructions and adopt Kewazinga's proposed constructions in their entirety.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on December 16, 2020, I caused a true and correct copy of the foregoing **KEWAZINGA'S OPENING CLAIM CONSTRUCTION BRIEF** to be filed and served electronically by means of the Court's CM/ECF system in accordance with Federal Rules of Civil Procedure and/or the Local Rules of this Court, upon the following counsel of record:

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